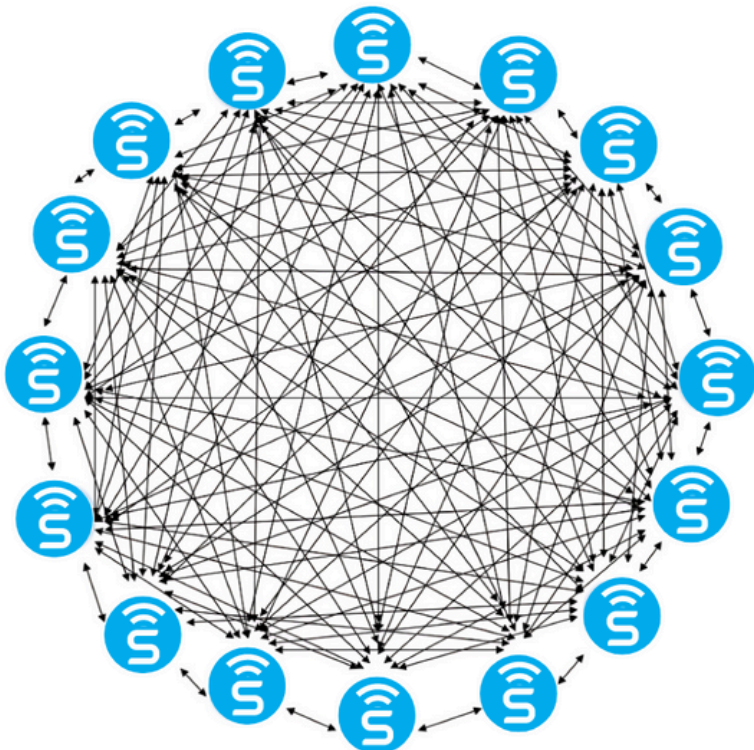


Wireless Technology to Control and Monitor Anything from Anywhere

Synapse's core competency is wireless networking. Our patented wireless MESH technology is Synapse Networking Application Platform (SNAP), which scales to thousands of nodes per network (5x that of standard Zigbee).

With a Python and C-level application architecture, SNAP can be deployed in a wide range of applications. There are millions of SNAP nodes in operation today.



- Uses proprietary IEEE 802.15.4 @ 2.4GHz
- Nodes automatically create a full mesh, self-healing network
- Single gateway can manage up to 1,000 devices
- Range up to 1,000 ft for internal, 3,000 for external
- SNAP communication is 100% local
- 128-bit AES Encryption

HOW IT WORKS

CONNECT

First, CONNECT the end-to-end devices in the edge network to each other and the edge gateways. This is where you make your technology decision. SNAP products include SNAPcore and SNAPmesh running on modules, E20 and E12 gateways, and SNAPconnect custom programs.

DEVELOP

The next step is to DEVELOP the intended application on top of the connected infrastructure. This gives each device purpose by distributing intelligence across the edge network.

- SNAPpy scripts running on modules
- SNAPconnect custom programs

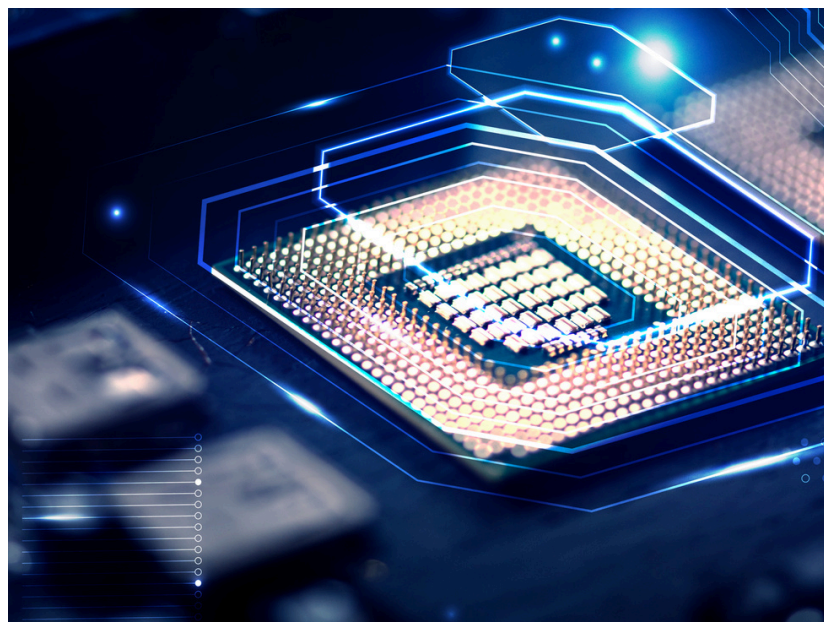
DEPLOY

Once the application is complete, specialty tools are required to DEPLOY the solution into the final environment (at scale and without needing experts at every step).

- Custom SNAPconnect-based programs and tools

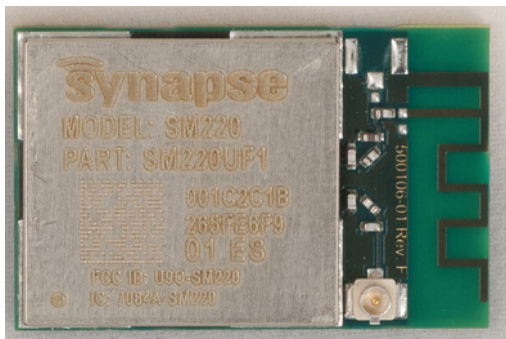
WHERE SNAP FITS

- Remote Management Layer: Software to help interface SNAP to the IoT platform
- Gateway Layer: SNAP Connect
- Node & Network Layer: SNAP Core, Toolbelt



CORE IOT PLATFORM HARDWARE

RF220SU Socketed Module: This Atmel RFA1-based socketed module supports an on-board RP-SMA. It can transmit up to +20dBm, has 128k Flash, 20 GPIO/7ADCs, and up to 2 Mbps raw bandwidth. It is ideal for prototyping and low-volume production.



SM220UF1 Surface Mount Module: This Atmel RFA1-based surface-mount module supports a software-selectable trace antenna or an external U.FL antenna connection. It can transmit up to +20dBm, has 128k Flash, 33 GPIO/7ADCs, and up to 2 Mbps raw bandwidth. It is ideal for high-volume production.

SNAPconnect E12 Gateway: SNAPconnect E12 Gateway features an Ubuntu Linus Operating System, ARM 8, 1GHz (TI Sitara), 4GB NAND Flash, 512 DR3 RAM, SNAP 2.4 GHz RF220SU w 3.2 dBi antenna, 100M ethernet, 1 USB Type-A, and 1 micro-USB. It is enclosed in a high temp, rugged metal enclosure.



SNAPconnect E20 Gateway: SNAPconnect E20 Gateway features an Ubuntu Linus Operating System, ARM Cortex-A-9, 800 MHz (Freescale i.MX6), 100M ethernet, 4G internal cellular modem, Verizon carrier certification, Wi-Fi 802.11 a/b/g, SNAP SM220UF1 w 3.2 dBi external antenna, 1 USB Type-A, 1 micro-USB, and is enclosed in a high temp, rugged metal enclosure.

CORE IOT PLATFORM HARDWARE

SM520UF1: This Silicon Labs Mighty Gecko-based surface-mount module supports a software-selectable trace antenna or an external U.FL antenna connection. It can transmit up to +19dBm, has 1MB Flash, 38 GPIO for GPIO, ADC, or PWM, and up to 250 Kbps raw bandwidth. It is ideal for high-volume production.



RSN132 SNAPstick: The SN132 SNAPstick is a compact, easy way to connect a PC to a SNAP wireless network. It supports all Synapse RF modules and is fully compatible with the SNAP Toolbelt software.

SN220 SNAPstick: The SNAPstick 220 provides a USB connection between your computer and a SNAP wireless network. It contains an SM220 SNAP module and has a user-programmable multi-color LED for custom applications.

